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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HAILEY, PATRICIA L

ART UNIT

PAPER NUMBER

1755

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,380

Applicant(s)

HAMPDEN-SMITH ET AL.

Examiner

Patricia L. Hailey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 29, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 47-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

Election/Restrictions

1. Applicant's election of Group I, claims 1-46 in Paper No. 8, filed on July 23, 2002, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Applicants are correct in that claims 75-81 should have been included in Group III, claims 60-74; the Examiner apologizes for the oversight.

2. Claims 47-81 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method for making particles including a polymer phase (Group II, claims 47-59) and to a non-elected electrode assembly (claims 60-81), there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Claim Objections

3. **Claims 17-23 are objected to because of the following informalities:**

It cannot be determined whether lines 3 and 4 of claim 17 is intended to read "wherein said support phase comprises primary **support** particles" (as recited in claims 1 and 24), or to read "wherein said support phase comprises carbon particles" (i.e., the word "primary" is not intended to be present).

Appropriate correction is required.

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Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 24-28 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 24-28 of copending Application No. 09/532,917. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

6. Claims 29, 30, 41, and 44 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-3, 20-22, and 39-41 of prior U.S. Patent No. 6,165,247. This is a double patenting rejection.

7. Claims 29, 30, 41, and 44 are directed to the same invention as that of claims 1-3, 20-22, and 39-41 of commonly assigned U. S. Patent No. 6,165,247. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP

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§ 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 29, 30, 41, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Kudas et al. (U. S. Patent No. 6,165,247).

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the

reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-3, 6-16, and 29-46 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 7-16, 24-31, and 33-46 of copending Application No. 09/532,917.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the '917 application specifies that the claimed powder batch comprises a "metal oxide active species phase" in claim 1, whereas claim 1 of the instant application only recites an "active species phase", yet claim 6 of the instant application recites that said phase as a "metal oxide". Additionally, claim 29 of the '917 application specifically recites a step of heating an aerosol of droplets by passing the droplets

through a heating zone, whereas claim 29 of the instant application merely recites the heating of the droplets. The claims of the instant application are considered to encompass the claims of the '917 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 1-3, 6-16, and 29-46 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 09/532,917 which has common inventors with the instant application.

Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the

invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1-5 and 9-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Itoh et al. (U. S. Patent No. 5,876,867).

Itoh et al. teach electrocatalyst particles comprising platinum or an alloy of platinum with at least one base metal selected from the group consisting of gallium, vanadium, chromium, manganese, iron, cobalt, nickel, and copper (considered to read upon the phrase "active species phase") supported on a conductive carbon powder (considered to read upon the phrase "support phase"). See col. 2, lines 52-61 of Itoh et al.

The platinum (or platinum alloy) may be supported on the conductive carbon carrier in an amount of 1% to 60% by weight, based on the whole catalyst. See col. 3, line 63 to col. 4, line 5 of Itoh et al.

The conductive carbon powder may be any conductive carbon powder known as carriers for electrocatalysts. As an example, carbon black powders having a BET surface area of from 50 to 1500 m²/g and a graphite crystallite diameter of from 7 to 80 Å may be used. See col. 4, lines 16-41 of Itoh et al. While Itoh et al. do not specifically teach the claimed average size of the "primary support particles" of "about 10 to about 100 nanometers" (100-1000 Å), one of ordinary skill in the art would anticipate that a difference of 20 Å is minuscule, especially when Itoh et al. clearly state that **any conductive carbon powder** known as carriers for electrocatalysts are suitable for Patentees' electrocatalyst.

The platinum (or platinum alloy) has no particular limitations on the characteristics of crystallite diameter or surface area. However, preferable ranges are 15-100 Å and 30-200 m²/g, respectively. See col. 7, lines 54-67 of Itoh et al.

In view of these teachings, Itoh et al. anticipates claims 1-5 and 9-16.

In the alternative:

Itoh et al. do not teach the specifically claimed ranges of, for example, the particle sizes of the "support phase" and "active species phase". However, the reference teaches values for these (and other) characteristics that overlap those respectively claimed. The subject matter as a whole would have been obvious to one having

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ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. In re Malagari, 182 U.S.P.Q. 549.

16. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (U. S. Patent No. 5,876,867).

Itoh et al. is relied upon as discussed above. However, Itoh et al. does not teach the specifically claimed average size of the support phase comprising carbon particles, i.e., "from about 20 to about 40 nanometers" (200-400 Å).

However, given that Itoh et al. teach that **any conductive carbon powder** known as carriers for electrocatalysts are suitable for Patentees' electrocatalyst (col. 4, lines 16-20), it would have been obvious to one of ordinary skill in the art to select a conductive carbon carrier having the claimed average particle size, since it has been held to be within the general skill of a worker in the art to select a material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 U.S.P.Q 416.

17. Claims 29-46 are rejected under 35 U.S.C. 103(a) as obvious over Kodas et al. (U. S. Patent No. 6,165,247).

Kodas et al. disclose a method for producing platinum powders (e.g., powders or particles including platinum or platinum-based compounds, see col. 4, lines 40-48),

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wherein at least one precursor of the desired particulate product is converted to aerosol form, with droplets of the medium being dispersed in and suspended by a carrier gas.

See col. 4, lines 49-54 of Kodas et al.

The carrier gas may be any gaseous medium in which droplets produced from a liquid feed may be dispersed in aerosol form. The carrier gas may be inert, or may have one or more active components contributing to the formation of the particles. See col. 6, lines 24-34 of Kodas et al. This disclosure is considered to read upon the claim limitations regarding the "precursor liquid" and what, as the claims recite, it further comprises (e.g., "reducing agent", "oxidizing agent", etc.). See also col. 31, lines 23-41 of Kodas et al., which teaches that the liquid feed may include multiple precursor materials present together in a single phase or multiple phases.

Kodas et al. also teach the employment of an aerosol generator, which includes a plurality of ultrasonic transducer discs. See col. 9, lines 48-65 of Kodas et al.

While Kodas et al. do not disclose that the particles produced by the process are "electrocatalyst particles", the reference is considered to read upon the method steps presently recited in the instant claims. Therefore, one of ordinary skill in the art would expect that the process of Kodas et al. would produce electrocatalyst particles, absent the showing of convincing evidence to the contrary.

The remaining claim limitations are considered to be within the purview of the teaching of the Kodas et al. reference.

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Conclusion


18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining cited references provide technological background in the electrocatalyst art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (703) 308-3317. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.


Lynn Hailey/plh
Examiner, Art Unit 1755
September 20, 2002


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700